

Remarks

I. Summary of the Office Action

In the final Office Action mailed December 9, 2010, the Examiner rejected Claims 18-19, 25-26, 30, 32-37, and 41-43 under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent No. 6,270,474 (Nuesch) in view of U.S. Patent No. 4,181,477 (Litt). Further, the Examiner rejected Claims 20-21 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Nuesch and Litt in view of U.S. Patent No. 5,025,829 (Edwards) and U.S. Publication No. 2003/0153869 (Ytteborg), rejected Claims 27 and 38-40 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Nuesch and Litt in view of Edwards, and rejected Claims 29 and 31 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Nuesch and Litt in view of U.S. Patent No. 5,453,097 (Paradis).

II. Status of the Claims

Presently pending are Claims 18-21, 25-27, 30, and 32-40. Applicants herein amend Claim 18 to include the subject matter of Claims 29 and 31, and cancel Claims 29, 31, and 41-43. Applicants submit that no new matter has been added. Applicants do not believe a new search should be required as the amendment to Claim 18 incorporates the subject matter of previous Claims 29 and 31, thus this subject matter has been addressed by the Examiner in the Office Action of December 9, 2010.

III. Response to the Rejections Under 35 U.S.C. § 103(a)

The Examiner rejected Claims 18-19, 25-26, 30, 32-37, and 41-43 under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent No. 6,270,474 (Nuesch) in view of U.S. Patent No. 4,181,477 (Litt).

a. The Cited References do not Disclose the Claimed Features

Independent Claim 18, as amended, recites a valve body with a circular diaphragm comprising narrow elongate openings which are distributed adjacent the periphery of the diaphragm and are separated from one another by webs, and compact openings between the elongate openings that comprise "a T-shaped configuration comprising a ***foot and a bar extending transversely over the foot, the bar extending adjacent said periphery and the foot being oriented toward the webs and radially toward a center point of the circle of the diaphragm.***" This valve body configuration

of narrow elongate openings and compact openings on a diaphragm is not shown in the cited art.

As the Examiner acknowledged, Nuesch does not disclose a diaphragm comprising the configuration recited in Claim 18 of narrow elongate openings and compact openings.

The Examiner turned to Litt for teaching a diaphragm with the openings recited in Claim 18. However, Litt does not disclose compact openings comprising “a T-shaped configuration comprising a foot and a bar extending transversely over the foot, the bar extending adjacent said periphery and the foot being oriented toward the webs and radially toward a center point of the circle of the diaphragm,” as recited in Claim 18.

Litt shows a valve with a valve plate. (Fig. 2). The compact openings (72) in Litt’s valve plate (30) are clearly circles, and do not comprise a T-shape. Furthermore, Litt does not teach or show any webs on the valve plate (30) with weaker portions in the areas adjacent the webs, which are also recited in Claim 18.

The Examiner cited the Paradis reference as teaching the subject matter of Claims 29 and 31, which recited compact openings comprising a T-shape. As previously discussed, the subject matter of Claims 29 and 31 is now incorporated into amended Claim 18, and thus, the rejection of the T-shape openings in a diaphragm in view of the Paradis reference will be discussed with reference to Claim 18.

Paradis does not teach a diaphragm with openings as recited in Claim 18. Paradis discloses a diaphragm 10d with a slit S. (See, e.g., col. 5, line 66 - col. 6, line 10; Figs. 1B, 3B-3C, 4, 7A-7C). The geometry of the slit S is clearly shown in the figures referenced above; it is a simple, single elongated slit. A structure 12 that is discussed at col. 6, lines 10-24 of Paradis is **not** a diaphragm but instead is a solid structure placed above the diaphragm 10d to “limit the deformation” of the diaphragm 10d. (See also Figs. 1A and 2A). The limiting structure 12 is clearly not intended to move like a diaphragm or to serve as a diaphragm, indeed its purpose is to *limit* the deformation of the actual diaphragm below it, item 10d.

Element 72 is present in Fig. 7A, and this element corresponds to the limiting structure 12 of Figure 1B. In the example shown in Fig. 7A, the element 70d corresponds to the diaphragm 10d discussed above. Therefore, element 72, like limiting structure 12, is **not** a diaphragm, but instead is a limiting structure placed above the diaphragm 70d. As a limiting structure, element 72 has a completely different impact on

the valve in Paradis than the T-shaped openings in the diaphragm claimed in Claim 18. The example shown in Figs. 7A-7D clearly shows the diaphragm 70d with only a slit.

The actual diaphragms in Paradis, items 10d and 70d, only have a simple slit, and do not have compact openings in addition to elongate openings as recited in Claim 18.

The combination of elongate and compact openings in a diaphragm as recited in Claim 18 are not present in any of Nuesch, Litt, or Paradis, nor are they present in the combination thereof. For at least this reason, Applicants submit that there can be no *prima facie* obviousness in view of Nuesch, Litt, and Paradis. Applicants thus submit that Claim 18 is allowable. Claims 19-21, 25-27, 30, and 32-40 ultimately depend from Claim 18 and Applicants submit that for at least the reason that each claim ultimately depends from allowable Claim 18, Claims 19-21, 25-27, 30, and 32-40 are also allowable.

IV. Conclusion

For these reasons, Applicants respectfully request favorable reconsideration and allowance of all the pending claims. Should the Examiner wish to discuss this case with the undersigned, the Examiner is invited to call the undersigned at (312) 913-3347.

Respectfully submitted,

McDonnell Boehnen Hulbert & Berghoff LLP

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By: /Nicole E. Reifman/
Nicole E. Reifman
Registration No. 58,792